USSR UDC: None

KERBIKOV, B. O., MANDEL'TSVEYG, V. B., and SHAPIRO, I. S.

"Charge Variables for Describing Systems of Particles and Anti-Particles"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, vol 62, No 6, 1972, pp 2013-2018

Abstract: It is shown that to set up the wave functions of systems consisting of nonrelativistic particles and anti-particles it is convenient to introduce charge variables. These make possible the evaluation of the G-parity of a system consisting of an even number of nucleons and anti-nucleons. It is shown that the G-parity of such a multiparticle system is not connected with the kinematic quantities of orbital moments, spins, and isospins but is an independent, exact quantum number defined only by the permutational symmetry of the wave function in terms of the charge variables. The authors express their gratitude to V. A. Karmanov, L. A. Kondratyuk, and M. S. Marinov for their comments.

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Acc. Nr.: AP0041157 K

Ref. Code: UR0121

USSR

UDC 621.924.6:621.833

MIL'SHTEYN, M. Z., KERBIKOV, L. S., VDOVIN, G. P.

"The Diamond Grinding of Hard-Alloy Shaver Teeth"

Moscow, Stanki i Instrument, No 1, 1970, pp 27-29

Abstract: The most labor-intensive operation in the production of shavers, an operation which determines their precision and durability, is grinding the profiles of the teeth. The Institute of Superhard Materials of the State Planning Commission of the Ukrainskaya SSR and the Moscow Tool Plant have developed and put into production a processing method for the diamond machining of disk shavers with detachable hard-alloy teeth. The article gives a description and the specifications of the equipment and process of grinding these teeth.

on 18

1/1

Reel/Frame 19750940

USSR

UDC 621.371:551.510.535

KERBLAY, T. S., and KOVALEVSKAYA, Ye. M.

"Focusing a Bundle of Rays in a Three-Dimensional Nonuniform Ionosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 1 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 1--collection of works) "Nauka," 1972, pp 296-298 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A328)

Translation: The focusing/defocusing characteristics of the horizontal nonuniform ionosphere are estimated in comparison with the spherical-symmetrical ionosphere. As the ionosphere model, use is made of a single-layer ionosphere with parabolic ionization distribution over the altitude, and with gradients of electronic concentration along the radio line direction and in the transverse direction. The presence of strong dependence of the focusing characteristics on the direction of the electron concentration gradient is demonstrated. One illustration, bibliography of two. N. S.

1/1

Acc. Nr: AP0046359 Ref. Code: UR0000

PRIMARY SOURCE: Razdel V, Ionosfernyye Issledovaniya, 1970, Nr 19, pp 7-19

T.S. Kerblay Variations of region F of ionosphere. . . . . .

Daily, season and latitudinal variations of maximum electronic concentration (Nm) of layer F2 are discussed on the basis of some data of the world net of ionospheric stations. Reasons of non-correspondence of actual variations and variations of a simple layer are analized in the light of up-to-date data about the upper atmosphere, its composition and temperature. Published explanations of anomaly variations of layer F2 are shortly discussed.

Dependence of ionization of layer F2 on solar activity is discussed. Four different forms of dependence characterizing separate latitudinal regions of the earth are obtained. An attempt is made to connect obtained kinds of dependence Nm on R with changes of aironomic parameters of ionosphere during a solar cycle.

REEL/FRAME
19781524

1/2 032 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--VARIATIONS OF THE IONOSPHERIC F REGION -U-

AUTHOR--KERBLAI, T.S.

COUNTRY OF INFO--USSR

SOURCE--IONOSPHERIC STUDIES. NUMBER 19. (A70-32076-15-13). MOSCOW, IZDATEL'STVO NAUKA, 1970, P. 7-19

DATE PUBLISHED-------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--F LAYER, DIURNAL VARIATION, SEASONAL VARIATION, SOLAR ACTIVITY, IONIZATION, ELECTRON DENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0685 STEP NO--UR/0000/70/000/000/0007/0019

CIRC ACCESSION NO--AT0126400

UNCLASSIFIED

2/2 032 UNCLASSIFIED

CIRC ACCESSION NO--AT0126400 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE DIURNAL, SEASONAL AND LATITUDINAL VARIATIONS OF THE MAXIMUM ELECTRON CONCENTRATION IN THE F2 REGION ON THE BASIS OF OBSERVATIONS BY A GLOBAL NETWORK OF STATIONS. AN ATTEMPT IS MADE TO EXPLAIN THE DISAGREEMENT BETWEEN OBSERVATIONS AND THEORETICAL EXPECTATIONS IN THE LIGHT OF PUBLISHED WORKS AND CURRENT KNOWLEDGE OF THE COMPOSITION AND TEMPERATURE OF THE UPPER ATMOSPHERE, ALSO DISCUSSED IS THE SEASONAL AND LATITUDINAL DEPENDENCE OF THE IONIZATION OF THE F2 LAYER ON SOLAR ACTIVITY. AN ATTEMPT IS MADE TO RELATE THE VARIATIONS IN THE MAXIMUM ELECTRON CONCENTRATION OF THE F2 REGION TO THE VARIATIONS IN THE AERONOMIC PARAMETERS OF THE IONOSPHERE DURING THE SOLAR ACTIVITY CYCLE.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--VARIATIONS OF THE IONOSPHERIC F REGION -U-

AUTHOR--KERBLAI, I.S.

COUNTRY OF INFO--USSR

SOURCE--IONOSPHERIC STUDIES. NUMBER 19. (A70-32076-15-13). MOSCOW, IZDATEL'STVO NAUKA, 1970, P. 7-19

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, ASTRONOMY,ASTROPHYSICS

TOPIC TAGS--F LAYER, DIURNAL VARIATION, SEASONAL VARIATION, SOLAR ACTIVITY, IONIZATION, ELECTRON DENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0685 STEP NO--UR/0000/70/000/000/0007/0019

CIRC ACCESSION NO--AT0126400

UNCLASSIFIED

2/2 032 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0126400

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE DIURNAL, SEASONAL AND LATITUDINAL VARIATIONS OF THE MAXIMUM ELECTRON CONCENTRATION IN THE F2 REGION ON THE BASIS OF OBSERVATIONS BY A GLOBAL NETWORK OF STATIONS. AN ATTEMPT IS MADE TO EXPLAIN THE DISAGREEMENT BETWEEN OBSERVATIONS AND THEORETICAL EXPECTATIONS IN THE LIGHT OF PUBLISHED WORKS AND CURRENT KNOWLEDGE OF THE COMPOSITION AND TEMPERATURE OF THE UPPER ATMOSPHERE, ALSO DISCUSSED IS THE SEASONAL AND LATITUDINAL DEPENDENCE OF THE IONIZATION OF THE F2 LAYER ON SOLAR ACTIVITY. AN ATTEMPT IS MADE TO RELATE THE VARIATIONS IN THE MAXIMUM ELECTRON CONCENTRATION OF THE F2 REGION TO THE VARIATIONS IN THE AERONOMIC PARAMETERS OF THE IONOSPHERE DURING THE SOLAR ACTIVITY CYCLE.

UNCLASSIFIED

USSR

UDC 621.375.147.3

BOYARCHENKOV, M. A., KERBNIKOV, F. I., RAYEV, V. K., and ROZENBLAT, M. A.

Magnitnyye Reshayushchiye Elementy (Magnetic Decision Elements), Moscow, "Sovetskoye Radio," 1971, 280 pp, Annotation p 2, Table of Contents pp 278-279

Translation of Annotation and Table of Contents: The book is devoted to a systematic consideration of the theory, construction principles, and methods for the practical realization of magnetic decision elements used for data processing in analog form in automatic control systems. Along with elements designed to perform the typical functions of summation, multiplication, integration, etc., the book also considers memory elements for analog quantities, memory integrators, sensitive measuring amplifiers for data input into an analog computer, etc. Methods are given for stabilization of the characteristics of zero drift reduction, for increasing the precision and improving the dynamic characteristics of decision elements, as well as the principal parameters of elements which have been realized in practice.

The book is intended for engineers and scientists engaged in the creation and use of automation and computer equipment, as well as for students of the corresponding specialties.

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USSR

BOYARCHENKOV, M. A., et al., Magnitnyye Reshayushchiye Elementy, Moscow, "Sovetskoye Radio," 1971

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BOYARCHENKOV, M. A., et al., Magnitnyye Reshayushchiye Elementy, Moscow, "Sovetskoye Radio," 1971

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BOYARCHENKOV, M. A., et al., Magnitnyye Reshayushchiye Elementy, Moscow, "Sovetskoye Radio," 1971

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BOYARCHENKOV, M. A., et al., Magnitnyye Reshayushchiye Elementy, Moscow, "Sovetskoye Radio," 1971

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BOYARCHENKOV, M. A., et al., Magnitnyye Reshayushchiye Elementy, Moscow, "Sovetskoye Radio," 1971

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USSR

BOYARCHENKOV, M. A., et al., Magnitnyye Reshayushchiye Elementy, Moscow, "Sovetskoye Radio," 1971

USSR

BOYARCHENKOV, M. A., et al., Magnitnyye Reshayushchiye Elementy, Moscow, "Sovetskoye Radio," 1971

8/8

USSR

UDC 542.91

LAGIDZE, R. M., LAGIDZE, D. R., and KERDIKOSHVILI, E. I., Academy of Sciences, Georgian SSR, Institute of Physical and Organic Chemistry imeni P. G. Melikishvili)

"Synthesis of Several New O,O-Diethyl 3-Arylbutylphosphonates"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 63, No 1, Apr 71, pp 65-67

Abstract: Nine new 3-arylbutylphosphonates were synthesized by subjecting previously synthesized 1-bromoacetoxybutane and 1-bromobutanes with the various aryl substituents in the 3-position to the conventional Arbuzov rearrangement with triethyl phosphite. Boiling points, refractive indices, and molecular refractions of the new compounds are reported. The compounds have potential application as intermediates or starting materials in the synthesis of biologically active compounds.

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USSR UDC 621.382.82

GORYUSHKIN, M. I., ZAIKA, V. V., KEREKESHER, I. P., LYAKHOVICH, V. V., PETIN, Yu. A., SEMENOVA, N. V.

"Integrated Circuit of a Low-Frequency Amplifier Based on MOS Transistors"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronic Technology. Scientific and Technical Collection. Microelectronics), 1971, vyp. 1(27), pp 14-19 (from RZh-Radiotekhnika, No 8, Aug 71, Abstract No 8D91)

Translation: The paper describes integrated amplifiers with high input impedance which can be realized on the basis of MOS transistors which ensure high input impedance, temperature stability of high input impedance, high packing density and low power consumption. Resumé.

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USSR UDC 616.932.078.73(047)

KERESELIDZE, T. S., Central Institute of Epidemiology, Ministry of Health USSR

"Possibilities of Serological Reactions in Cholera in Association with Antibody Characteristics (A Literature Review)"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 47, No 6, Jun 70, pp 44-47

Abstract: Titration of antibodies has been the primary method of studying cholera immunity. Early work was devoted to determination of the agglutinin level. In 1896 Grubar and Darham introduced the microscopic examination of feces of cholera patients. Achard and Bensande experimented with agglutination of the blood serum of sick people. Other methods of cholera detection were based on determination of coproantibodies, which were considered important in the development of immunity to cholera. Interesting work by Besaca Sevilla and coworkers (1964, 1965) led to the discovery that El'-Tor vibrios are the etiological factor. Filkenstein had developed a standard method for the determination of vibrio antibodies. It was found that the concentration of these antibodies in cholera patients increases from 1:100,000 parallel with an increase in the concentration of coproantibodies. In fact, Felsenfeld and coworkers showed (1966) that the vibriocidins were related to the same globulins as the coproantibodies. Felsenfeld et al. demonstrated circulating antitoxins by an embryonic neutralization reaction, the method of Pree (Morgan,

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USSR

KERESELIDZE, T. S., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 47, No 6, Jun 70, pp 44-47

1960), by the neutralization reaction in tissue culture (Read, 1965), and finally by determination in an isolated loop of rabbit intestine (Burrows et al. 1966). The last two methods are most widely used in practical work. Sengupta (1959) was first used electrophoresis to study immunoglobulins in cholera patients. He found that in the acute period one detects mostly immunoglobulin G, whereas in the so-called uremic phase, immunoglobulins M and A prevail. The coproantibodies have been studied extensively; however, their nature has not yet been fully elucidated. The mechanism of action of the antibodies was also studied. The bacteriolysis phenomenon known as the Isayev-Pfeiffer phenomenon was studied in connection with the action of serum antibodies. Modern serological methods used for studying cholera immunity are of diagnostic value and allow one to obtain important data on the immunity of certain groups, which facilitate epidemiological evaluation of a situation and the effectiveness of mass immunization. For these purposes, the sensitivity and specificity of serological methods must be prefected.

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AA0043577 N.P. KERGE UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

243062 TUNING EQUIPMENT FOR RESONATORS IN ELECTRO-MECHANICAL FILTERS, containing oscillator (1), amplitude, modulators (2) and (3) working in antiphase. Amplifier (3) is connected through inductive transducer (4) with resonator (5). Improved tuning is obtained by the inclusion of amplifier (9), limiter (10), non-linear detector (11) in the circuit of the indicator (14). 3.11.67 as 1195322/26-9. N.P.KERGE & YU.N.SMIRNOV. (16.9.69) Bul 16/5.5.69. Class 21e. Int.Cl.G 01r.

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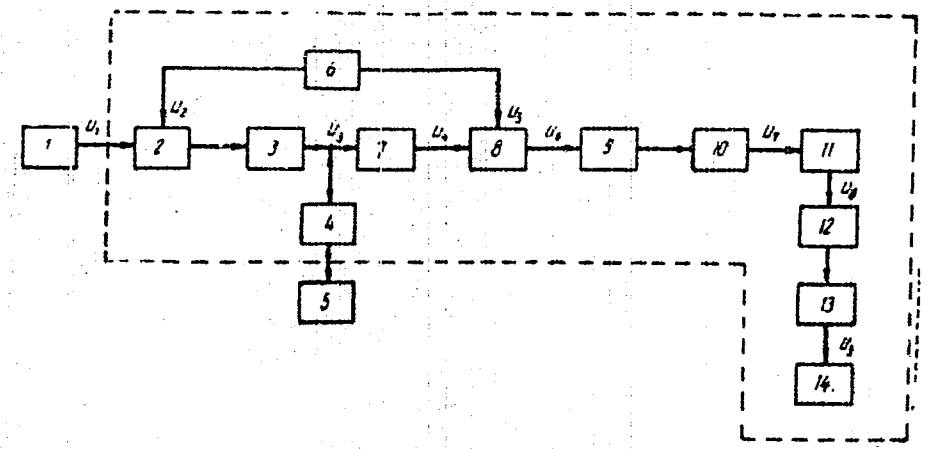
19762045

AA0043577



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19762046

USSR

UDC 661.143

BENDERSKAYA, L. P., TANANAYEV, A. N., KERIMBEKOVA, N. A.

"Phase Composition of the Base of LR-1 Type Borostanate Luminophors"

Sb. nauch. tr. VNII lyuminoforov i osobo chist. veshchestv (Collection of Scientific Works of the All-Union Scientific Research Institute of Luminophors and Materials of Extreme Purity), 1972, vyp. 7, pp 66-68 (from RZh-Khimiya, No 6 (II), Abstract No 6L160)

Translation: A study was made of compounds formed in the $MgO-B_2O_3-SnO_2$ system by x-ray diffraction analysis and infrared spectroscopy. The formation of a new phase during interaction of the oxides MgO, B_2O_3 and SnO_2 differing from the structure of the known borostanate compounds is demonstrated. The initial components were of the following quality: MgO (of extreme purity), SnO_2 (analytically pure), $HgBO_3$ (of extreme purity). The homogenized charge was calcined at 1,250° for five hours.

1/1

USSR UDC 735.07

GAMIDOV, SH. G., and KERIMOV, A. M., Azerbaydzhan State University Imeni S. M. Kirov

"Study of the State of Substances in Critical Regions"

Baku, Izvestiya Akademii Nauk Azerbaydzhanskoy SSR, Seriya Fiziko-Tekhnicheskikh i Matematicheskikh Nauk, No 4, 1971, pp 141-144

Abstract: The study of peculiarities of the behavior of substances near the critical point is a complex experimental and theoretical problem. To solve problems which arise, it is important to study isochoric heat capacity on isochores during the transition of a system from heterogeneous to homogeneous state, through the phase coexistence line. It is especially important to study heat capacity now when the decision of the Soviet Commission, in accordance with the program of the International Association, provides for the creation of reference values for thermophysical properties of technically important substances and the compilation of international tables of these properties. The article describes results of a study of the heat capacity of benzene along the saturation line on 22 isochores embracing regions of the

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002201230009-2"

USSR

GAMIDOV, SH. G., and KERIMOV, A. M., Izvestiya Akademii Nauk Azerbaydzhanskoy SSR, Seriya Fiziko-Tekhnicheskikh i Matematicheskikh Nauk, No 4, 1971, pp 141-144

two-phase and one-phase state of the substance. It was found that during the transition of the substance from the two-phase to the one-phase state, heat capacity changes abruptly far from the critical point, smoothly in the neighborhood thereof, in a certain temperature interval.

2/2

1/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--ISOCHORIC SPECIFIC HEAT -U-

AUTHOR-(02)-KERIMOV, A.M., ALIYEVA, M.K.

COUNTRY OF INFO--USSR

SOURCE--TEPLOFIZ. VYS. TEMP. 1970, 8(1), 59-65

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SPECIFIC HEAT, THERMAL EXPANSION, CRITICAL POINT, WATER, IMPURITY LEVEL, GRAVITATION EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0935 STEP NO--UR/0294/70/008/001/0059/0065

CIRC ACCESSION NO--AP0107464

UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0107464

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ISOCHORIC SP. HEAT C SUBV OF WATER WAS MEASURED AT THE SP. VOLS. V EQUALS 1.04, 1.33, 10.00, AND 20.20 CM PRIME3-G AND FOR THE CRIT. ISOCHORE V SUBC EQUALS 3.17 CM PRIME3-G AT TEMPS. UP TO THE CRIT. TEMP. THE COURSE OF C SUBV LINES IN THE 2 PHASE AND SINGLE PHASE REGION AND ITS DEPENDENCE ON V SHOWED THAT AT THE CRIT. POINT C SUBV HAS A FINITE VALUE FOR PURE SUBSTANCES. AN EFFECT OF IMPURITIES IN WATER (0.2 WT. PERCENT AIR OR 0.1 WT. PERCENT ETOH) ON C SUBV AND GRAVITIONAL EFFECT AT THE CRIT. POINT WERE DETD. EXPTL.

FACILITY: AZERB. NAUCH.-ISSLED. INST. ENERG. IM. ES'MANA, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--DETERMINATION OF THE THERMAL CONDUCTIVITY OF LIQUID HYDROCARBONS BY A COMPARATIVE METHOD -U-

AUTHOR-(03)-KERIMOV, A.M., ELDAROV, F.G., ELDAROV, V.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT GAZ 1970, 13(1), 77-80

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, METHODS AND EQUIPMENT

TOPIC TAGS--THERMAL CONDUCTIVITY, HYDROCARBON, THERMOCOUPLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1573 STEP NO--UR/0152/70/013/001/0077/0080

CIRC ACCESSION NO--AT0116981

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0116981

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DIFFERENCE WAS DETD. BETWEEN THE SURFACES OF 2 CONCENTRIC CYLINDERS, BETWEEN WHICH WAS THE LIQ. OR GAS, WHOSE COND. WAS TO BE DETD. DIFFERENTIAL THERMOCOUPLES WERE USED TO DET. THE TEMP. THE MAIN ADVANTAGES OF THE METHOD WERE SIMPLICITY OF THE APP. AND DETN., SMALL AMT. OF SUBSTANCE FOR DETN., AND THE POSSIBILITY TO DET. THE COND. OF BOTH LIQS. AND GASES. THE DETN. PRECISION WAS 1.5PERCENT, INCLUDING THE ERRORS FOR CALIBRATION WITH STD. LIQS. AN APP. SCHEME AND RESULTS OF DETNS. ARE PRESENTED.

FACILITY: AZERB. PEDAGOG. INST. IM. LENINA, BAKU, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--EFFECT OF FINITE DIMENSIONS OF NUCLEUS WITH MAGNETIC DIPOLE MOMENT ON THE PHOTOPRODUCTION OF A PAIR BY CONSIDERING THE POLARIZATION OF THE

AUTHOR-(02)-KERIMOV, B.K., ABLAKULOV, KH.A.

COUNTRY OF INFO--USSR

SOURCE--VESTN. MOSK. UNIV., FIZ., ASTRON. 1970, 11(1), 15-25

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PAIR PRODUCTION, NUCLEAR STRUCTURE, DEFORMED NUCLEUS, DIFFERENTIAL CROSS SECTION, MAGNETIC DIPOLE MOMENT, ELECTRON POLARIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1900 STEP NO--UR/0188/70/011/001/0015/0025

CIRC ACCESSION NO--AP0108230

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0108230

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIFFERENTIAL EFFECTIVE CROSS SECTION WAS CALCD. IN THE BORN APPROXN. FOR THE PHOTOPRODUCTION OF PAIRS IN THE FIELD OF THE ELONGATED NUCLEUS WHICH HAS A MAGNETIC DIPOLE MOMENT, BY TAKING INTO ACCOUNT THE LONGITUDINAL POLARIZATION OF ALL OF THE PARTICLES WHICH TAKE PART IN THE PROCESS. A FORMULA IS OBTAINED FOR THE DEGREE OF LONGITUDINAL POLARIZATION OF THE PARTICLES IN A PAIR FORMED BY A CIRCULARLY POLARIZED, HIGH ENERGY PHOTON IN THE FIELD OF THE NUCLEUS BY TAKING INTO ACCOUNT THE MEAN SQUARE RADIUS AND THE 4TH POWER OF THE MOMENT OF THE CHARGE D. DISTRIBUTION AND THE MAGNETIC DIPOLE MOMENT OF THE NUCLEUS. THE FORMULAS THAT WERE OBTAINED ARE USED TO STUDY THE EFFECT OF THE FINITE DIMENSIONS OF THE NUCLEUS ON THE ANGULAR DISTRIBUTION OF NONPOLARIZED AND LONGITUDINALLY POLARIZED PAIRS AND ON THE DEGREE OF LONGITUDINAL POLARIZATION OF THE E NEGATIVE (E POSITIVE) WHICH FORM THE PAIRS.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ASPECTS OF TWO AND FOUR COMPONENT NEUTRINO THEORIES DURING AN EXAMINATION OF WEAK LEPTONIC AND SEMILEPTONIC PROCESSES -U-
AUTHOR-(02)-KERIMOV, B.K., ROMANOV, YU.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(2), 57-61

DATE PUBLISHED--------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--LEPTON, NEUTRINO, MUON, RADIOACTIVE DECAY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0946 STEP NO--UR/0139/70/013/002/0057/0061

CIRC ACCESSION NO--AT0105815
UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0105815

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOR THE EXAMN. OF THE WEAK LEPTONIC AND SEMILEPTONIC PROCESSES, THE 2 (CA 52:8765A) AND 4,COMPONENT THEORIES (CA 52:5146B) OF 2 NU WERE USED. ACCORDING TO THE 4,COMPONENT THEORY, AND CONTRARY TO THE 2,COMPONENT THEORY, THE MUON DECAY IS DUE TO THE V PLUS A INTERACTION.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--POLARIZATION EFFECTS DURING THE PHOTOPRODUCTION OF ELECTRON POSITRON PAIRS WITH A CALCULATION OF ELECTROMAGNETIC MULTIPOLE NUCLEAR

AUTHOR-(02)-KERIMOV, B.K., ELGAVKHARI, A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 204-9

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PAIR PRODUCTION, ELECTRON POLARIZATION, GAMMA RAY, CIRCULAR POLARIZATION, BORON ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1991/1044 STEP NO--UR/0048/70/034/001/0204/0209

CIRC ACCESSION NO--AP0110734

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0110734

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GENERAL FORMULA OF THE DEGREE OF LINEAR POLARIZATION OF E PRIMENEGATIVE-E PRIMEPOSITIVE PAIRS (S SUBPOSITIVE EQUALS S SUBNEGATIVE EQUALS 1 OR MINUS 1, AND S SUBNEGATIVE EQUALS MINUS S SUBNEGATIVE EQUALS 1 OR MINUS 1) IS CALCD. FOR CIRCULARLY POLARIZED GAMMA RAYS. THE NUCLEUS PRIME11 8 IS CONSIDERED AS AN EXAMPLE.

UNCLASSIFIED

USSR

UDC 536.413:620.181.428.4.05.082

ALIYEV, N. G., KERIMOV, I. G., KURBANOV, M. M., and MAMEDOV, T. A.

"A Dilatometer With Photoelectric Registration"

Moscow, Teplofiz. svoystva veshchestv pri nizk. temperaturakh -- sb. (Thermophysical Properties of Substances at Low Temperatures -- Collection of Works), 1972, pp 163-167 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 2, 1973, Abstract No 2.32.962 by V. S. K.)

Translation: The authors describe the design of a highly sensitive dilatometer with photoelectric registration that is used to measure the thermal expansion of solids in the 4.2-400 K range, in addition to explaining the measurement procedure. The dilatometer includes a system for registering and transmitting the amount of elongation. The main part of the elongation registraion system is a differential photoresistor that is part of a bridge network. A coiled constantan wire is used to heat the sample throughout its entire length. Its temperature is measured with an angular resistance thermometer in the 4.2-100 K range, and with a copper-constantan thermocouple in the 100-400 K range. The instrument is calibrated over the 4.2-400 K range by using a piece of copper 50 mm long and 5 mm in diameter as a standard. The instrument was checked by measuring the thermal expansion of aluminum; this showed that the measurement

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USSR

ALIYEV, N. G., et al., Teplofiz. svoystva veshchestv pri nizk. temperaturakh — sb., 1972, pp 163-167

accuracy was 0.5 percent with respect to the calibration data. The dilatometer's sensitivity was found to be $1 \cdot 10^{-9}$. This measurement method makes it possible to eliminate the introduction of a correction factor for the expansion of quartz. (3 illustrations; 13 bibliog. ref.)

2/2

USSR

UDC 546.711'22 + 546.711'23

RUSTAMOV, A. G., KERIMOV, I. G., VALIYEV, L. M., and BABAYEV, S. KH., Institute of Physics, Academy of Sciences Azerbaydzhan SSR

"Electric Properties of MnS and MnSe Single Crystals"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 6, No 7, Jul 70, pp 1339-1340

Abstract: The authors prepared single crystals of the compounds MnS and MnSe by the method of chemical transport reactions and studied their conductance and thermo EMF. Data are given on the temperature dependence of the conductance and thermoelectric coefficient.

1/1

USSR

UDC: None

KERIMOV, K. A., Azerbaijan Institute of Mathematics and Mechanics Membrane in Elastoplastic Deformations"

Baku, Izvestiya Akademii nauk azerbaydzhanskoy SSR, Seriya fizikotekhnicheskikh i matematicheskikh nauk, No 3, 1972, pp 69-73

Abstract: The problem considered is that of the normal shock by a rigid cone on a flexible infinite membrane under the following assumptions: 1) the velocity of the body doing the shocking remains constant while the shock is occurring; 2) the material of the membrane is subject to the elastoplastic law of deformation with linear strengthening; 3) in the region of transverse motion, the membrane is in full contact with the cone, the shock giving rise to cylindrical waves. The stressed state of the membrane is then characterized by the presence of two regions of motion: one purely radial, the other transverse-radial or meridional; the velocity of propagation of the cylindrical waves is less than that of the radial elastic waves. The problem is obtained from an earlier paper (A. Kh. Rakhmatulin, et al, Prochnost' pri intensivnykh kratkovremennykh nagruzkakh -- Resistance to Intensive Short-Term Loads -- 1961).

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USSR

BASOV, N. G., DANILYCHEV, V. A., KERIMOV, O. M., PODSOSONNYY, A. S.,
Physics Institute imeni P. N. Lebedev, Academy of Sciences of the USSR

"Population Inversion in the Active Medium of an Electroionization CO_2 Laser for a Pressure of the Working Mixture of Up to 20 Atmospheres"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 17, No 3, 5 Feb 73, pp 147-150

Abstract: The authors study the variation, with time, of the inverse population in the active medium of an electroionization CO_2 laser. It is experimentally shown that increasing the pressure of the working mixture up to 20 atmospheres does not lead to any qualitative changes in the processes of excitation and relaxation of laser levels. The authors thank N. A. Penin and V. A. Kurbatov for furnishing a receiver with a resolution of $3 \cdot 10^{-9}$ sec.

USSR

UDC: 621.375.85

DANILYCHEV, V. A., KERIMOV, O. M., and KOVSH, I. B.

"CO_2 Laser With Electro-Ionization Pulse"

Moscow, Pribory i tekhnika eksperimenta, No 1, 1973, pp 184-185

Abstract: The laser described in this paper is distinguished by its high power and high efficiency. Using a small volume of the operating gas -- carbon dioxide -- radiated power of 1 MW is easily obtained together with a simple method of varying the duration of the radiating pulse between 0.1 and 5 μsec through a change in pressure of the CO_2. Such lasers can be used for investigating the interaction of powerful radiation with materials. A diagram of the laser chamber in cross section is given and its construction discussed. Since a radiation density of more than 10^4 MW/cm^2 can be easily attained with focusing, the device can be used for investigating optical breakdown of gases and transparent dielectrics.

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USSR

BASOV, N. G., BELENOV, E. M., DANILYCHEV, V. A., KERIMOV, O. M., KOVSH, I. B., and SUCHKOV, A. F., Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR

"Gas Lasers at High Pressures"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 14, No 7, 5 Oct 71, pp 421-426

Abstract: A gas laser, operating at pressures of tens of atmospheres and high-power, short-duration pulses is described. Its active part is excited by electrons from an ionizing radiation source, accelerated further by an electric field. Essential problems to be solved are: 1) mechanism of the introduction of energy, and 2) conditions of stability of operation not perturbed by quenching processes.

1) Power in the active part of the laser may be divided into two components: one due to the electron current, and another - to both ions and electrons. It was found that in normal operation, the former is several orders of magnitude larger than the latter. A set of partial differential equations is given, the solution of which establishes conditions for the avalanche gas ionization. It was also found that in normal operation the

USSR

BASOV, N. G., et al., Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 14, No 7, 5 Oct 71, pp 421-426

potential gradient along the discharge sector, including the cathode drop, was constant. Typical parameters of laser operation are given: with a pulse length of 2×10^{-8} sec, electron particle density 10^{15} cm^{-3}, the discharge specific energy is 3 to 4 joule cm^{-3}.

2) With the potential being larger than its breakdown value, volume discharge is stable during the spark generation period. Cases were examined for the potential difference being below that value. As with an increase of current, the temperature increases, leading to a decrease of pressure, and the breakdown conditions are reached. The dynamics of this type of perturbation is described by three partial differential equations, and computation of the energy needed to produce a discharge with the initial potential difference half the critical value is performed as an illustration. This type of relationship is used as a criterion of stability. Graphs are presented giving threshold voltage as a function of pressure for mixtures of CO_2:N_2 and of CO_2:N_2:He.

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USSR

BASOV, N. G., et al., Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 14, No 7, 5 Oct 71, pp 421-426

3) An experiment was performed with a molecular laser using CO_2 at 25 atmospheres, with electron bunches as triggers. It was found that quenching collisions produced little effect upon the population inversion in CO_2 at high pressure. It was found, however, that with an increase of pressure, the breakdown voltage increased across the discharge sector, and the specific energy input increased too. Increased collision frequency, accompanying the increase of pressure, reduces the generation pulse length.

USSR

UDC: 621.373.431(088.8)

KERIMOV, O. Z., Power Engineering Institute imeni G. M. KRZHIZHANOVSKIY

"A Radio Pulse Oscillator with Shock Excitation of the Oscillatory System"

USSR Author's Certificate No 277881, filed 13 Jan 69, published 9 Dec 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6G273 P)

Translation: A radio pulse oscillator with shock excitation is proposed which contains a DC voltage source with a charging choke and isolating semiconductor diode, a storage capacitor , a commutator based on a thyristor, a video pulse voltage source for control of the commutator, and pulse transformers. To eliminate parasitic fluctuations in the controlling circuit of the thyristor commutator, the oscillator also contains an amplitude limiter in the form of a stabilitron which is connected in parallel with the control electrode-cathode section of the thyristor.

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USSR

UDC 533.697

TSVETKOV, F. F., KERIMOV, R. V.

"Results of Measurements of Hydraulic Resistance in the Motion of Dusty Air in Tubes"

Tr. Mosk. energr. in-ta (Works of Moscow Power Engineering Institute), 1971, No. 81, pp 27-32 (from RZh-Mekhanika, No 9, Sep 71, Abstract No 9B327)

Translation: The resistance in the ascending motion of a suspension of graphite particles of diameter 230 μ was studied experimentally in a tube of diameter 18.8 mm over a segment of length 1880 mm. The resistance was determined by measuring the pressure drops over the length of this segment. The flow rate of the air varied from 4.9 to 20 m/sec and the Reynolds number varied from $6.5 \cdot 10^3$ to $32 \cdot 10^3$. The mass emission concentration K varied from 1 to 15. Almost linear relationships $\Delta p/\Delta p_0(K)$ were obtained, the slope of which drops considerably with the rise in Reynolds number. The effect of the Reynolds number is explained on the basis of a measurement with the aid of a specially developed photoelectric system of the velocity of the front of the particles suspended in the ascending gas flow. A. S. Malyutin.

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USSR UDC: 8.74

KERIMOV, S. K., MEKHTIYEV, A. A.

"Organizing Storage and Retrieval of Data on Chemical Compounds"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 7, Moscow, "Sov. radio", 1972, pp 111-117 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V627)

Translation: This article deals with a method of algorithmic coding of chemical compounds developed at IIITEKhIM [expansion not known] (Moscow), and also with an algorithm for retrieving information on these compounds. Magnetic tape storage of the codes of the chemical compounds in the computer memory is done by the direct method. Criteria of sense correspondence are described as well as an algorithm for search of chemical compounds. The main distinguishing feature of the given data retrieval system of factographic type is the combination of the descriptor method of characterizing documents with a specialized symbolic language of linear codes. Authors' abstract.

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USSR 002.513.5;631.322-523.8

KERIMOV, S. K., IVANOVA, N. I.

"Machine Realization of the 'Argon-1' Information Retrieval System"

Moscow, Nauchno-Tekhnicheskaya Informatsiya, No. 3, 1970, pp 25-27.

Abstract: Earlier works have presented detailed descriptions of an information retrieval language for chemistry and chemical technology, used in the "Argon-1" information retrieval system, designed to be run on the Minsk-22 computer. This article presents a description of the practical procedure of machine realization of this system. The organization of the accumulation and storage of information in external computer memory is described. A flow chart of the program for supplementation of the list of descriptors in machine memory is presented, along with a description and flow chart of the retrieval algorithm. Search can be performed for several requests simultaneously.

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1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--ELECTROLYTE METABOLISM IN MIDDLE AND OLD AGE -U-

AUTHOR--KERIMOVA, D.G.

COUNTRY OF INFO--USSR

SOURCE--AZERB. MED. ZH. 1970, 47(1), 36-8

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GERIATRICS, BIOLOGIC AGING, BLOOD CHEMISTRY, ARTERIOSCLEROSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0217 STEP NO--UR/0488/70/047/001/0036/0038

CIRC ACCESSION NO--AP0134022

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134022

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN 74 PEOPLE OF MORE THAN 60 YEARS OF AGE CHANGES OF ELECTROLYTE CONCNS. IN THE BLOOD APPEARED TO BE RELATED TO ARTERIOSCLEROSIS OR HOMONAL PERTURBATIONS OCCURRING IN MIDDLE AND OLD AGE.

UNCLASSIFIED

USSR

UDC 661.718.1+661.183.123

EFENDIYEV, A. A., ABBASOVA, B. G., OSMANOV, U. O., and KERIMOVA, S. A.,
Institute of Theoretical Problems of Chemical Technology, Academy of Sciences Azerbaydzhan SSR

"Phosphorus-Containing Complex-Forming Polymers on the Basis of Vinylphosphonic Acid Diisobutyl Ester and Acrylic Acid"

Baku, Azerbaydzhanskiy Khimicheskiy Zhurnal, No 2, 1971, pp 159-163

Abstract: Vinylphosphonics acid diisobutyl ester (I) was copolymerized with acrylic acid (II) to form copolymers containing I 50.2, II 49.8, cross-linking agent 4% (P 6.8%) and I 22.5, II 77.5, cross-linking agent 4% (P 3.0%). Co-polymerization was carried under the action of UV light in the presence of 1% cumene hydroperoxide, (cf. V. A. Kargin, A. A. Efendiyev, et al DAN SSSR, Vol 144, p 1307, 1962). I was prepared by splitting off HCl from beta-chloroethyl-phosphonics acid diisobutyl ester obtained by reacting iso-BuOH with a mixture of $AlCl_3$, PCl_3 and dichloroethane. Comparison of the two copolymers showed that with an increasing content of II the moisture content increased, the tensile strength and relative elongation decreased, and the rate of swelling increased. The capacity of films of the copolymers to adsorb K, Na, Ca, Mg, Ba, Ln/Mn ?/, Cu, Co, and Ni ions was determined. The films practically did not adsorb
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USSR

EFENDIYEV, A. A., et al., Azerbaydzhanskiy Khimicheskiy Zhurnal, No 2, 1971, pp 159-163

the ions of alkali and alkaline earth metals (adsorption capacity < 0.1 mg/equiv/g), while adsorbing effectively and with a selectivity close to 100% the ions of Cu, Co, and Ni from aqueous solutions containing ions of alkali and alkaline earth metals. Adsorption of Cu, Co, and Ni ions took place with the formation of complexes which were decomposed under the action of 1N HCl. Adsorption of Co^{++} and Ni^{++} was carried out at pH 6.8, that of Cu^{++} at pH 5.2, using solutions of acetates of the metals being adsorbed. A study of the kinetics of adsorption of Cu^{++} at pH 5.2 indicated that adsorption proceeded slowly - a state of equilbbrium was reached only in several days. On the other hand, desorption with 1N HCl took place rapidly, being completed in 30 min. As shown by an electron-microscopic study, the difference in the rate of desorption vs. that of adsorption was due to a change in the structure of the copolymers with a changing pH; at pH ≤ 1.1 the copolymer macromolecules had a fibrillar structure, whereas at pH ≥ 3 the fibrils rolled up, forming globules.

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1/2 036 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECTIVE MASS OF CURRENT CARRIERS IN N-AG SUB2 TE -U-

AUTHOR-(03)-KERIMOVA, T.G., ALIYEV, S.A., AKHUNDOV, G.A.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 400-1

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SILVER COMPOUND, TELLURIDE, CARRIER DENSITY, IR REFLECTANCE, SINGLE CRYSTAL PROPERTY, THERMAL EMF, HALL EFFECT, STRONG MAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0093 STEP NO--UR/0449/70/004/002/0400/0401

CIRC ACCESSION NO--AP0105179

UNCLASSIFIED

2/2 036 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105179

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTIVE MASS OF THE CURRENT CARRIERS IN SINGLE CRYSTAL SPECIMENS OF N TYPE AG SUB2 TE AT A CONCN., N EQUALS 1.2 TIMES 10 PRIME18-CM PRIME3 WAS DETD. FROM THE SPECTRAL DISTRIBUTION OF THE REFLECTION IN THE IR REGION, AND FROM DATA ON THE THERMOEMF. AND THE HALL EFFECT IN A STRONG MAGNETIC FIELD. THE REFLECTION SPECTRA EXHIBITED A MIN. WHICH IS CHARACTERISTIC FOR DOPED SEMICONDUCTORS. THE EFFECTIVE MASSES OBTAINED FROM OPTICAL AND ELEC. MEASUREMENTS SHOW GOOD AGREEMENT. FACILITY: INST. FIZ., BAKU, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--REPRODUCTION OF EXPERIMENTAL HEPATITIS IN DOG PUPPIES -U-

AUTHOR-(05)-KERIMZADE, K.G., ALEKPEROVA, L.I., SHEKHTMAN, A.B., KADYMOV, SH.R., BERSHCHANSKIY, M.L.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 1, PP 88-93

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEPATITIS, DOG, ADENOVIRUS, LIVER, LUNG, PANCREAS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1207 STEP NO--UR/0402/70/000/001/0088/0093

CIRC ACCESSION NO--AP0054105

UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0054105

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADENOVIRUS TYPES 2 AND 5 AND A STRAIN OF B 61D VIRUS PRODUCED IN EXPERIMENTALLY INFECTED 4 DAY OLD DOG PUPPIES AND PUPPIES OF 1 AND ONE HALF TO 2 MONTHS AN INFECTIOUS PROCESS ACCOMPANIED BY BIOCHEMICAL CHANGES AND PATHOMORPHOLOGICAL LESIONS INDICATING INVOLVEMENT OF THE LIVER, LUNGS AND SOME OTHER ORGANS. MORPHOLOGICAL MANIFESTATIONS OF THE INFECTIOUS PROCESS WERE CHARACTERIZED BY SPECIFIC CHANGES IN EPITHELIAL AND MESENCHYMAL ELEMENTS OF THE LUNGS, LIVER, PANCREAS WITH FORMATION OF INTRANUCLEAR INCLUSIONS OF VIRAL NATURE. THE STRAIN OF B 61D VIRUS WAS FOUND TO BE MARKEDLY HEPATOTROPIC. ADENOVIRUS TYPE 5 AFFECTED THE DIGESTIVE ORGANS AND LUNGS ALMOST TO THE SIMILAR DEGREE, WHEREAS ADENOVIRUS TYPE 2 SHOWED MOST MARKED PNEUMOTROPICITY. ADENOVIRUS TYPE 1 HAD POOR BIOLOGICAL ACTIVITY. THE EXISTENCE OF CROSS SUSCEPTIBILITY OF HUMAN BEINGS AND DOGS TO ADENOVIRUSES AND HIGH RATES OF ISOLATION OF THE LATTER FROM PATIENTS WITH INFECTIOUS HEPATITIS DRAW ATTENTION TO ADENOVIRUSES AS A POSSIBLE ETIOLOGICAL FACTOR IN THIS INFECTION.

UNCLASSIFIED

USSR

UDC: 621.317.8

AVVAKUMOV, Yu. I., DEGTYAR', L. E., ZELINOVSKIY, Z. I., KERITSKIY, L. P., SOLOMYANCHUK, L. K., TSAYREF, K. M., Kishinev, Scientific Research Institute of Instrument Building

"A Wire-Wound Resistor"

USSR Author's Certificate No 283365, filed 7 Apr 69, published 11 Dec 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V362 P)

Translation: This Author's Certificate introduces a wire-wound resistor which consists of wires connected in parallel and wound on a common form. As a distinguishing feature of the patent, reactance is reduced by using an even number of wires in the winding, connecting the initial ends of even-numbered wires and terminal ends of odd-numbered wires to one of the current leads arranged along the axis of the form, and connecting the initial ends of odd-numbered wires and terminal ends of even-numbered wires to the other current lead.

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USSR

UDC 576.31

KERKIS, A. Yu., and KHRISTOLYUBOVA, N. B., Laboratory of Cell Ultrastructures, Institute of Cytology and Genetics, Siberian Department, Academy of Sciences USSR, Novosibirsk

"Dynamics of Changes in the Ultrastructure of Cells in Tissue Culture During the Cell Cycle"

Leningrad, Tsitologiya, No 4, 1971, pp 525-529

Abstract: Electron microscope study was conducted of various stages of the cell cycle in normal tissue culture (fetal rabbit kidney). Flat-parallel embedding of the material (embedding of tissue culture in plexiglas in the form of flat, parallel plastic slides) and "light" autoradiography were used to identify the different phases of the cell cycle. During the interphase changes were detected both in the cell organelles and in the structure of the protein-synthesizing apparatus, because the various stages of the interphase are not alike in genetic activity. Starting with G_1 there was an increase in the number of all the structures involved in protein synthesis. The process reached a peak at the end of S or beginning of G_2. At the end of G_2 the number of elements in the protein-synthesizing apparatus and other organelles decreased because the need for them disappeared after the cessation of the main synthetic processes. The morphological changes observed are

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KERKIS, A. Yu. and KHRISTOLYUBOVA, N. B., Tsitologiya, No 4, 1971, pp 525-529

consistent with the results of biochemical, autoradiographic, and cytologic studies on individual stages of the interphase.

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Organ and Tissue Transplantation

USSR

UDC 575.24:578.083

KERKIS, YU. YA., and SKOROVA, S. V., Institute of Cytology and Genetics, Novosibirsk, Siberian Department of the Academy of Sciences USSR

"The Mutagenic Effect of Immunological Stress Due to Tissue Incompatibility in Mice"

Moscow, Genetika, Vol 7, No 11, 1971, pp 70-74

Abstract: The immunological stress developing after transplantation of allogenic skin grafts (obtained from line AKR mice) increases the number of bone marrow cells in the recipients (line A mice) with chromosomal abberations up to 15%, thus yielding up to 0.106 abnormal chromosomes per cell. Only 0.049 abnormal chromosomes per cell are observed in controls (mice with syngenous skin grafts and intact mice). The maximum number of injuries occurs on the 10th-15th days after transplantation, coinciding with rejection of the allogenic transplants. It is believed that the disrupted intracellular homeostasis, resulting from mobilization of immunological mechanisms against foreign antigens, causes structural lesions in the chromosomes at the moment of their replication or during other phases of the mitotic cycle.

1/1

USSR

KERNERMAN, E. YA., NAKORYAKOV, V. Ye. (Novosibirsk)

"Flow and Heat Exchange in Slit Channels With Obstructions"

Moscow, Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1971, pp 115-118

Abstract: A study is made of the flow conditions in narrow channels behind obstructions of various shape at low and medium values of the Reynolds number. The observed flow conditions are compared with experimental data on heat transfer in a channel behind an obstruction. 4 figures, 9 bibliographic entries.

1/1

USSR

UDC 621.317.743

KERNOGO, L. A., and MOROSHEK, E. Z., Central Scientific Research and Design Engineering Institute for Organization and Technical Management

"Signalling Device"

USSR Author's Certificate, Class G O b 1/08, No 339928, filed 28 July 70, published 19 July 72 (RZh-Avtomatika Telemechanika i Vychislitel'naya Tekhnika, No 2, Mar 73, Abstract No 3 A 350P)

Translation: The authors propose a signalling device, containing a synchronization unit, the synchronous inquiry output signals of which are connected to the inputs of sensors of the states of an object and to the control input of a signal commutator. The outputs of the commutator are connected to the inputs of an indicator unit. The device is made more economical by including a cycle frequency divider and switch, so that the information input of the signal commutator can be connected to the outputs of one of the state sensors and the output of the switch; the first input of the switch is connected to the outputs of other state sensors, while the second is connected to the output of the frequency cycle divider, whose inputs are, in turn, connected to the output of the cycle start signal from the synchronization unit. One illustration.

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USSR

UDC 621.316(00.1+002.2+003.1+004)

KERNOGO, V. V.

"Determination of Discrete Levels of Adaptation of Municipal Distribution Networks in Connection with Load Growth"

V sb. Tekhn. progress v elektrosnabzh. gorodov (Technical Progress in Electric Power Supply of the Cities -- collection of works), Leningrad, Energiya Press, 1970, pp 195-198 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye 278)

Translation: The municipal distribution network requires periodic reconstruction to improve the carrying capacity of its elements. Possible solutions are distinguished by means of realization and effect obtained. A solution is proposed for the multiextremal problem on the basis of grouping possible versions and step reduction of their number containing the global optimum. There is 1 illustration and a 4-entry bibliography. [TsNIIMESK]

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1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--MORPHOLOGICAL CHANGES OF THE ADRENALS IN EXPERIMENTAL BURNS -U-

AUTHOR-(04)-MUZYKANT, L.I., KEROVA, A.N., GORDEYEV, V.F., KUTSIDI, YE.V.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 49, NR 6, PP 113-116

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THERMAL BURN, RABBIT, ADRENAL CORTEX, HYPERPLASIA, URINE, CORTICOSTEROID, EXCRETION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0575 STEP NO--UR/0219/70/049/006/0113/0116

CIRC ACCESSION NO--AP0131198

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131198

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN SEVERE BURN CAUSING IN RABBITS A STATE OF SHOCK DURING THE FIRST 24 HOURS NO CHANGES IN THE STRUCTURE OF THE ADRENALS WERE OBSERVED. 48-72 HOURS AFTER THE INFLICTION OF BURN THERE WERE FOUND HYPERPLASTIC PROCESSES IN THE ADRENAL CORTEX, THIS APPARENTLY TESTIFYING TO ITS INCREASED FUNCTION. THE AUTHORS REVEALED A REDUCED URINARY CONTENT OF 17-OXYCORTICOSTEROIDS ON THE FIRST DAY AND IN THE INSTANCE OF ANURIA, ON THE SECOND-THIRD DAY AFTER THE INFLICTION OF BURN. ON THE SECOND DAY, AND IN ANURIA, ON THE THIRD FORUTH DAY AFTER BURN, THE LEVEL OF 17-OXYCORTICOSTEROIDS REVERTED TO THE NORMAL VALUE.

FACILITY: A. V. VISHNEVSKIY INSTITUTE OF SURGERY OF THE ACADEMY OF MEDICAL SCIENCES OF THE USSR, MOSCOW.

UNCLASSIFIED

USSR UDC 621.316.542.001.5

SOLOV'YEV, E. P., Engineer, DOBRUSIN, A. I., Engineer, KERPELEV, S. G., Engineer, GROMOV, YU. I., Engineer, ZAGAYKEVICH, B. D., Engineer

"Electrical Testing of the Material of Insulating Pull Rods for VVB-750m High-Voltage Breakers"

Moscow, Elektrotekhnika, No 8, 1971, pp 46-47

Abstract: Results are presented from testing the electrical properties and moistureproofness of various fiberglass rods obtained by drawing. The superiority of the developed polyester epoxy fiberglass is demonstrated, and this material is recommended for the insulating pull rods of high voltage breakers. Graphs are presented showing the moisture absorption of the new material and the variation of its specific surface drag as functions of time spent in a wet chamber. Comparative data are presented for rods 12 mm in diameter and 50 mm long using PN-1 binder with GF-82GS protective coating and without the coating, fiberglass made of polyester epoxy binder without a coating and with GF-82GS and PKE-22 protective coatings and fiberglass using an epoxy binder manufactured in Poland and presently widely used in 35 kilovolt breakers. The specific surface drag of the Polish fiberglass dropped as much in 24 hours as that of the polyester epoxy fiberglass after a month. Measurements of the electric strengths of the materials after a month in a wet chamber produced the

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USSR

SOLOV'YEV, E. P., et al., Elektrotekhnika, No 8, 1971, pp 46-47

following data: for material without a coating 4 kv/cm and with the PKE-22 coating, 3.52 kv/cm.

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USSR UDC: 621.396.67:624.97(088.8)

KERPELEV, S. M., VAVILOVA, V. K., FRIDMAN, P. M.

"An Antenna Tower"

USSR Author's Certificate No 273304, filed 3 Mar 69, published 14 Sep 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6B115 P)

Translation: The proposed antenna tower contains a mast made in the form of a tubular frame, a base, and a hoisting mechanism equipped with a speed reducer. To simplify the design of the hoisting mechanism and improve its operational reliability, the housing of the speed reducer is fastened by means of a bearing to a lug on the base. The housing is rigidly connected to the output shaft of the speed reducer and is equipped with a flange to which the end face of the tower mast is fastened.

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USSR UDC: 621.396.67:624.97(088.8)

KERPELEV, S. M., MIROVA, T. D., FRIDMAN, P. M., ZINOV'YEVA, N. A.

"An Antenna Support"

USSR Author's Certificate No 272396, filed 27 Sep 68, published 22 Sep 70 (from RZh--Radiotekhnika, No 6, Jun 71, Abstract No 6B113 P)

Translation: The proposed antenna support contains a bar for fastening the antenna, a cable drum, and an instrument cabinet. To improve convenience in the use of the support, it contains an operator's chair formed by the interconnected tubes which make up the stand of the support and the top of the instrument cabinet. The cabinet top is accommodated in the longitudinal slots of two tubes which fit into the fastening brackets of the cable drum. The drum has rims with tires and racks for holding the antenna in the collapsed position.

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USSR

OGURSKIY, G. A., KERPELEV, S. M.

UDC:621.396.677:621.396.965(088.8)

"A Hinge Mechanism"

USSR Author's Certificate No 268806, filed 25 Jul 68, published 30 Jul 70 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2B63 P)

Translation: This Author's Certificate introduces a hinge mechanism with three degrees of freedom for adjusting radar antennas. The device contains an enclosure housing a spherical hinge which is coupled in turn to a cylinder supporting the antenna, and three feed screws with nuts, the first being equipped with an axle which passes through the spherical hinge, while the second has a half-axle movably connected to the above-mentioned axle, the axle and half-axle being coupled to the spherical hinge so that it can be rotated with respect to two mutually perpendicular coordinate axes. The third lead screw is connected to the above-mentioned cylinder so that it can be rotated with respect to the third coordinate axis. In order to reduce overall dimensions and mass, simplify the design and improve operational reliability, the third lead screw is hinged by a bracket to the axle of the first lead screw, and the spherical hinge is equipped with a cylindrical cantilever which houses the cylinder. The third lead screw for ro-

OGURSKIY, G. A., KERPELEV, S. M., USSR Author's Certificate No 268806

tating the cylinder is coupled to it by a bracket accommodated in matched apertures made in the housing and in the spherical hinge.

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USSR

UDC 539.3

KARANDAKOV, G. V., KEROPYAN, K. K., NAZATROV, V. M.

"Calculation of the Circular Anisotropy,Orthotropy and Isotropy of a Plate of Constant Rigidity on an Elastic Base by the Electric Modeling Method"

Tr. Novocherkas. politekhn. in-ta (Works of Novocherkassk Polytechnical Institute), 1972, No. 253, pp 66-71 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V170)

Translation: The possibility of applying multilayer grid electric models of biharmonic operators to calculate circular anisotropic, orthotropic and isotropic plates on a single-layer elastic base with two characteristics is established. The electrical models used in the paper are distinguished from the familiar models in that the biharmonic operators are directly modeled, not requiring their division into systems of second-order operators. 6 ref. Authors' abstract.

USSR

UDC 669-419.4:669.71:669.14

FISHKIS, E. YA., KERSHENBAUM, V. YA., and DEMINA, E. L.

"Composition and Properties of the Transition Layers in Aluminum Alloy-Steel Bimetals Produced by Friction Surfacing"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 74, pp 70-71

Abstract: Results are presented from an investigation into the aeffect of different technological modes of hard surfacing as well as cooling rate on composition, structure and thickness of the transition zone. Studies were made on bimetals of antifriction aluminum alloys of the Al-Sb system and steels 10 and 45. The velocity, pressure applied, time at temperature for diffusion processes to occur, and cooling rate are ths ignificant factors in friction surfacing for producing the best bimetallic joint. These factors also have an effect on the thickness of the clad layer and transition zone. From tests of bimetal ASS 6-5 + steel 10 and ASS 6-5 + steel 45 it was determined that the stronger bimetal can be produced at a surfacing velocity of 1.2 m/sec, P = 2 kgf/mm^2, time of 45 seconds and water cooling. This mode produces a transition-zone thickness of 1-10 microns with the better bimetallic joint made using ASS 6-5 + steel 45, although shear tests showed that rupture occurs in the surfacing layer (ASS 6-5). Four figures.
1/1

USSR

UDC 621.771+791

FISHKIS, E. YA., DEMINA, E. L., KERSHENBAUM, V. YA., and SHREYBER, G. K., Moscow

"A New Process for Preparing an Aluminum-Steel Bimetal"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 4, Jul/Aug 72, pp 119-122

Abstract: Friction fusing was considered as a possible preparation process for an aluminum-steel alloy. It was shown that in the zone of contact, a migrating layer was formed, the thickness of which was determined by the technological parameters of the fusion process. The most stable compound of steel with aluminum or with an aluminum alloy was obtained when the thickness of this layer was on the order of 1-3 μ. A reliable friction fusion system for producing these alloys is explained.

1/1

1/2 028 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--RADIATION,CHEMICAL OXIDATION AND NITRATION OF AN ALIPHATIC DILUENT IN TWO PHASE AQUEOUS,ORGANIC SYSTEMS -U-

AUTHOR-(03)-KERSULIS, V., YEGOROV, G.F., ZAGORETS, P.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM. VYS. ENERG. 1970, 4(2), 172-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--OXIDATION, NITRATION, RADIOLYSIS, ELECTRON RADIATION, AMMONIUM COMPOUND, NITRATE, BENZENE DERIVATIVE, CARBONYL COMPOUND, CARBOXYLIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0760 STEP NO--UR/0456/70/004/002/0172/0173

CIRC ACCESSION NO--AP0119667

UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119667

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RADIOLYSIS BY FAST ELECTRONS WAS STUDIED OF THE 0.2M SOLNS. OF ALKYLAMMONIUM NITRATES IN THE MIXT. CONTG. 70 WT. PERCENT N,C SUB8 H SUB18 AND 30 WT. PERCENT N,C SUB8 H SUB17 OH, AT A DOSE RATE SIMILAR TO 1.4 TIMES 10 PRIME18 EV-CM PRIME2,SEC. THE ALKYLAMMONIUM CATIONS WERE THOSE OF DINONYLANILINE, DIBENZYLDODECYLAMINE, AND BENZYLDINONYLAMINE, AND THE MAIN RADIOLYSIS PRODUCTS WERE CARBOXYLIC ACIDS, CARBONYL COMPDS., AND 1,OCTYL NITRITE. NITROOCTANES, SEC,OCTANOLS, AND 1,OCTYLNITRATE WERE FORMED IN LOWER YIELDS. THE PRESENCE OF O SUB2 HAD AN INSIGNIFICANT EFFECT ON THE RADIOLYSIS YIELDS AND ITS ONLY IMPORTANT EFFECT WAS THE LOWERING OF THE RATIOS OF THE NITRITE YIELDS TO THOSE OF NITRATES. FACILITY: INST. ELEKTROKHIM., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: AP0049986 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR 0456

95265p Radiolysis of alkylaromatic amines in two-phase aqueous-organic systems. Kersulis, V.; Egorov, G. F.; Zagorets, P. A. (Mosk. Khim.-Tekhnol. Inst. im. Mendeleeva, Moscow, USSR). *Khim. Vys. Energ.* 1970, 4(1), 91–2 (Russ). Solns. of 0.2*M* $PhCH_2N(C_9H_{19})_2$ (I), $C_{12}H_{25}N(CH_2Ph)_2$ (II), or $PhN(C_9H_{19})_2$ (III) in BuPh or *n*-C_8H_{18} contg. 30 wt. % *n*-$C_8H_{17}OH$ (IV), with and without an equal vol. of aq. 2*M* HNO_3, were irradiated (1.4×10^{18} eV ml^{-1} sec^{-1}) by fast electrons (~5 MeV) in the presence or absence of O_2, and the products were analyzed. The presence of O_2 did not influence the rate of radiolysis. Decompn. yields in the absence of HNO_3 are (substance, $-G$-values in *n*-C_8H_{18}, $-G$-values in BuPh, given): I, 3.3, 3.6; II, 2.4, 3.1; III, 1.0, 2.9 (^{60}Co; 4×10^{15} eV ml^{-1} sec^{-1}). In the presence of HNO_3 the resp. values are: I, 4.1, 2.6; II, 3.4, 2.6; III, 13, 96.

J. Panchartek

IB

REEL/FRAME
19801924

USSR UDC 681.332.65

CHAVCHANIDZE, V. V., BRODZELI, M. I., KERTSMAN, E. L., GORBUSHINA, L. P., and MALKIN, Ya. P.

"Electrooptical Trigger with Calculating Input"

USSR Author's Certificate No 277844, filed 20 May 69, published 3 Nov 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 71, Abstract No 6 B210 P)

Translation: Electrooptical flip-flops based on optron-type polycrystals are well known. In particular, they can consist of a light radiator -- an electroluminescent capacitor -- and a photoreceiver -- a photoresistor. The basic principle on which polycrystalline electrooptical elements are built consists in realizing local optical coupling between the radiator and the photoresistor inside the optron and electrical coupling between the elementary cells. The proposed flip-flop is distinguished by the fact that in it two series-connected photoresistors are connected parallel to the electroluminescent cell connected in series to one of the photoresistors and coupled optically with it. One of the photoresistors is also optically connected to the electroluminescent cell, and the other, jointly with the first resistor, is connected to the input optical signal source. This permits an increase in operating stability of the system.

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UNCLASSIFIED PROCESSING DATE--17JUL70

TITLE--HETEROCYCLIC NITRO COMPOUNDS. II. ALKYLATION OF NITRO DERIVATIVES OF 1,2,4,TRIAZOLE -U-

AUTHOR--BAGAL, L.I., PEVZNER, M.S., SHELUDYAKOVA, N.I., KERUSOV, V.V.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (2), 265-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HETEROCYCLIC NITROGEN COMPOUND, ALKYLATION, ORGANIC AZOLE COMPOUND, ORGANIC SULFUR COMPOUND, SULFATE, METHOXY COMPOUND, AROMATIC NITRO COMPOUND, THIN LAYER CHROMATOGRAPHY, CHROMATOGRAPHIC SEPARATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1793 STEP NO--UR/0409/70/000/002/0265/0268

CIRC ACCESSION NO--AP0100369

UNCLASSIFIED

ACC. NR: AP0100369 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR0409

111384j Heterocyclic nitro compounds. II. Alkylation of nitro derivatives of 1,2,4-triazole. Bagal, L. I.; Pevzner, M. S.; Sheludyakova, N. I.; Kerusov, V. M. (Leningrad. Tekhnol. Inst. im. Lensoveta, Leningrad, USSR). *Khim. Geterotsikl. Soedin.* 1970, (2), 265–8 (Russ). Methylation of 3-nitro-1,2,4-triazole (I) and its analogs with Me_2SO_4 in alkali occurs at the 1-position, while CH_2N_2 gave mixed products with Me in the 1- and 2-positions. I (2 g) in Me_2CO treated with 6 ml 10% NaOH and 2.2 g Me_2SO_4 and the mixt. kept 8 hr gave 66% 1-Me deriv. (II) of I, m. 63–4°. Similarly prepd. was the 1,5-di-Me deriv. (III) of I, 55%, m. 89–90°, while the 5-carbomethoxy deriv. of I gave its 1-Me deriv., 51%, m. 120–1°. Treating, in dioxane, the appropriate I analog with 50% excess CH_2N_2 in Et_2O gave: from I, 76% II and 24% 1-methyl-5-nitro-1,2,4-triazole; from the 5-Me deriv. of I, 64% III and 36% 1,3-dimethyl-5-nitro-1,2,4-triazole. No N^4-substitution was found. Adding 6.5 g 1,3-dimethyl-5-amino-1,2,4-triazole-H_2SO_4 in 5% H_2SO_4 at 0° to 30 g $NaNO_2$ in H_2O and keeping the mixt. 0.5 hr gave 52% 1,3-dimethyl-5-nitro-1,2,4-triazole, m. 55–6°; similarly was prepd. 3-nitro-4,5-dimethyl-1,2,4-triazole, m. 66–7°. CH_2N_2 and 1-

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REEL/FRAME 19841793

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methyl-3-carboxy-5-nitro-1,2,4-triazole gave 69% Me ester, m. 84°. The 1-methyl-5-carbomethoxy deriv. of I heated with 15% H_2SO_4 12 hr gave 67% II. 3,5-Dinitro-1,2,4-triazole converted to its Na salt and this treated with Me_2SO_4 in Me_2CO gave 64% 1-Me deriv., m. 96–7°, also formed exclusively from the Ag salt and MeI in the dark in MeCN, or from the dinitrotriazole and CH_2N_2 in Et_2O, or finally from 1-methyl-3,5-diamino-1,2,4-triazole-H_2SO_4 heated with aq. $NaNO_2$ and $Cu(NO_3)_2$ 2 hr at 50–60°. The mixed triazoles were readily sepd. by thin layer chromatog. on Al_2O_3.

G. M. Kosolapoff

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19841794

USSR

UDC 517.917

KERZYUK, V. I., KOLOMIYETS, V. G.

"Investigation of Nonlinear Stochastic Systems With Slowly Changing Parameters"

Kiev, Matematicheskaya Fizika, No. 10, 1971, pp 28-34

Abstract: The asymptotic methods of nonlinear mechanics and the Kolmogorov-Fokker-Planck equations are applied to studies of nonstationary modes in nonlinear oscillatory systems with slowly changing parameters under random actions. It is noted that the problem of studying nonstationary phenomena arising under a change in the mass, frequency, and other parameters of a nonlinear oscillatory system is frequently encountered in many current problems in physics and engineering. The random actions are assumed to be of the "white noise" type. Equations are derived which can describe the random oscillations of a vacuum-tube oscillator, and fractional oscillations in the system are studied.

USSR

UDC: 536.23

VARGAFTIK, N. B. and KERZHENTSEV, V. V., Moscow Aviation Institute imeni S. Ordzhonikidze

"Experimental Study of the Coefficient of the Thermal Conductivity of the Vapors of Cesium"

Moscow, Teplofizika Vysokikh Temperatur, Vol 10, No 1, Jan-Feb 1972, pp 57-65

Abstract: The authors present the results of measuring the coefficient of the thermal conductivity of cesium vapors using the method of coaxial cylinders in the 680-1080°K temperature interval and at pressures of 0.001-1.3 bar. Two series of experiments on the thermal conductivity of cesium vapors were performed. The results show that the values of the criteria Le=0.30 and Le=0.32 indicate the closeness of the results for both sets of experiments with respect to the effect of the dissociation reaction on thermal conductivity. The discreptancy in λ/λ_1 for the experimental points of both series at a given c_p/c_{p1} is 2 percent. The resulting experimental data are generalized on the basis of equations proposed for the thermal conductivity of dissociating gases. Original article: seven formulas, three tables, five figures, and 15 bibliographic entries.

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USSR UDC: 621.372.8:621.395.44

KERZHENTSEVA, N. P., Editor

"Volnovody dal'ney svyazi" (Remote Communication Waveguides) Moscow, "Svyaz'" 1972, 192 pp, p 2

Translation:

Authors: Grodnev, I. I., Dmitrachenko, V. M., Isayenko, Yu. M., Kozelev, A. I., and Malin, V. V.

192 pages, illustrated.

The book considers problems connected with the use of circular waveguides with wave type H_{01} for multichannel communications. The structural principles of waveguide lines, waveguide sections and elements, engineering methods for computing waveguides and methods of measuring their electrical parameters, production problems, mounting and lining of waveguides, are all described.

The book is designed for engineering and technician personnel in the design and development of waveguide lines, for students in advanced courses in the VUZ communications schools, and for degree candidates specializing in this field.

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USSR

KERZHENTSEVA, N. P., Editor

"Volnovody dal'ney svyazi" (Remote Communication Waveguides)
Moscow, "Svyaz'" 1972, 192 pp, pp 3-4

Translation:

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KERZHENTSEVA, N.P., "Volnovody dal'ney svyazi", "Svyaz'" 1972, 192 pp,
pp 3-4

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USSR

UDC: 621.396.677.7

KERZHENTSEVA, N. P.

"Emission of Fast Waves From a Semi-Infinite Circular Waveguide With Anisotropic Walls"

Moscow, Radiotekhnika i Elektronika, Vol. 16, No 6, Jun 71, pp 936-940

Abstract: The fields of emission of normal fast hybrid wave modes from the open end of a circular waveguide with anisotropic walls are found in the Huygens approximation. This model describes a large class of waveguides with fine periodic wall structure. Waveguides with annular conductivity -- corrugated and ring waveguides -- are studied. It is shown that appreciable expansion of the radiation pattern and reduction of side lobes is possible for HE_{1n} waves.

1/1

USSR

UDC: 621.372.825.09

KERZHENTSEVA, N. P.

"Mode Conversion in a Waveguide with Smoothly Changing Wall Impedance"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 1, Jan 71, pp 29-36

Abstract: The author discusses mode conversion in a waveguide with periodic wall structure, where the period p is much shorter than the wavelength λ. Shielded waveguides of circular cross section with annular anisotropy are studied: a corrugated waveguide with annular grooves, and an annular waveguide in a dielectric shell and metal shield. It is assumed that the wall material is ideally conductive. Mode converters are considered in which the depth of the corrugations (or dielectric shell thickness for an annular waveguide) increases from 0 at the input to $\lambda/2$ at the output. In this case, the E_{mn} input wave ($m \neq 0$) is converted to an H_{mn} output wave. If the waveguide converter is used in the opposite direction, with the input corrugation depth (or dielectric thickness) corresponding to $\lambda/2$, the input E_{mn} waves are converted to H_{mn+1} waves ($m \neq 0$). The corrugated converter can also be used to transform E_{0n} waves to E_{0n+1} waves, or with series connected converters -- for changing E_{0n} waves to E_{0k} waves. Expressions are found for the coupling

USSR

KERZHENTSEVA, N. P., Radiotekhnika i Elektronika, Vol 16, No 1, Jan 71, pp 29-36

coefficient, and mode conversion $H_{11} \leftrightarrow E_{11}$ is a corrugated converter is considered. It is shown that waveguides with smoothly varying periodic wave structure may be used for effective conversion of asymmetric waves.

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USSR

KERZHENTSEVA, N. P., Radiotekhnika i Elektronika, Vol 16, No 1, Jan 71, pp 29-36

coefficient, and mode conversion $H_{11} \leftrightarrow E_{11}$ is a corrugated converter is considered. It is shown that waveguides with smoothly varying periodic wave structure may be used for effective conversion of asymmetric waves.

2/2

Acc. Nr: AA0108699 KERZHKOVSKIY Ref. Code: E.T.
Abstracting Service: UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 3/7C

241222 HYDRAULIC PRESS comprises frame 1, columns 2, slide 3, head 4, fixed traverse 5 with tiebars 6, ejector rams 7 and its supporting movable traverse 8. The latter is attached to tail end 9 sliding in guides 10 of the fixed traverse, so that it can take up eccentric loads resulting in tension of the tiebars. The traverse carries out its operating stroke when fluid is fed into cylinders 11, whereas cylinders 12 ensure the return stroke. The frame holds table 13 with nests for inserts 14, the removal of which causes eccentric loading of traverse 8, and the rams 7 may then be used as eccentric pressing units.

18.8.67. as 1182432/25-27, SHCHUKIN, V.V., KERZHKOVSKII, E.I. and S.G. KHIRDZHIEV et al. (9.9.69) Bul. 13/1.4.69. Class 58a, Int. Cl. B 30b.

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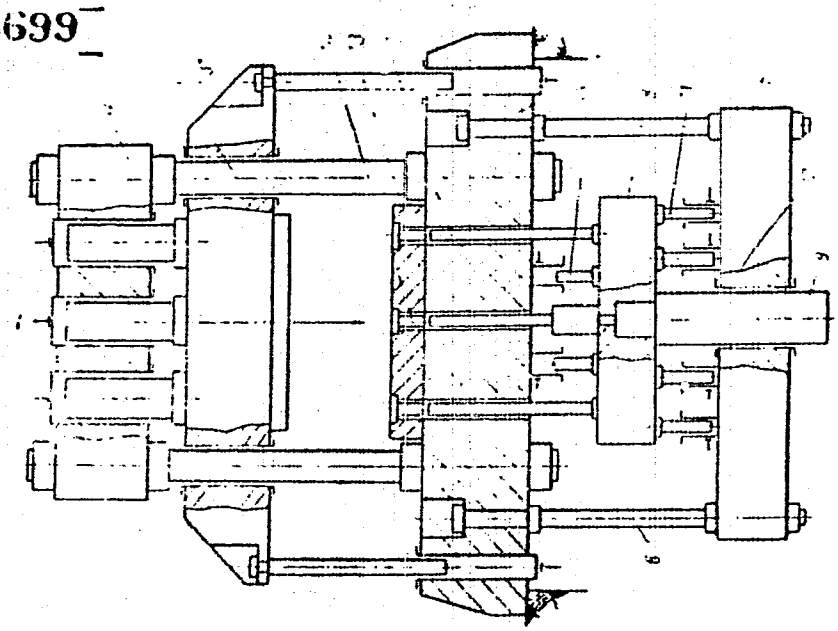
CK 18

REEL/FRAME
19900441

AA0108699



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19900442

CK

AA0108699

AUTHORS: Shchukin, V. V.; Kerzhkovskiy, E. I.; Khirdzhiyev, S. G.; Baranov, L. F.

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19900443

USSR

KERZYUK, B. I., KOLOMIYETS, V. G.

"Study of Nonlinear Stochastic Systems with Slowly Changing Parameters"

Mat. Fizika. Resp. Mezhved. Sb. [Mathematical Physics, Republic Interdepartmental Collection], No 10, 1971, pp 28-34 (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V91 by the author's).

Translation: The main purpose of this work is to use asymptotic methods of nonlinear mechanics and the method of the Kolmogorov-Fokker-Plank equations for problems of investigation of unstable random modes in nonlinear oscillating systems with slowly changing parameters with random "white noise" perturbations.

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KESAMANLY, F.P.

INIS 5708
6-73

XIII-6. EFFECT OF THE SUBSTRATE ORIENTATION ON THE GROWTH AND PROPERTIES OF EPITAXIAL LAYERS

[Article by S. A. Grushkov, F. P. Kesamanly, V. F. Kovalenko, I. Ya. Karachinov, B. P. Masenko, V. I. Orel, A. V. Tuzarskiy, Sverlovsk: Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 187]

The epitaxial layers of solid solutions of $Al_xGa_{1-x}As$, Ga, P_xAs_{1-x} were grown from a solution in a gallium melt in a hydrogen flow on gallium arsenide plates with an orientation of 100, 111B, 111A and on the 100 planes disoriented to 111B by 3° and 10°.

The effect of the orientation plane on the growth rate, morphology, electrical parameters and photoluminescence intensity was investigated. The layers most improved with respect to morphology were obtained on misaligned planes. The distribution of the composition in the $Al_xGa_{1-x}As$ layers with respect to thickness is observed as a function of the substrate orientation plane. The most uniform layers were obtained for growth on substrates oriented in the 111B plane. In pure layers of $Al_xGa_{1-x}As$ with a concentration of less than $5\cdot10^{15}$ cm^{-3}, a deep level is observed (for example, for x = 0.3 the activation energy of the level E = 0.12 electron volts). On the basis of the layers of solid solutions of $Al_xGa_{1-x}As$, GaP_xAs_{1-x} obtained, like diodes were manufactured with a brightness to 1,000 nt for a current of 10 milliamps.

PHYSIOLOGY

USSR UDC 591.481.1:599.537

KESAREV, V. S., Laboratory of Brain Architectonics, Institute of the Brain, Academy of Medical Sciences USSR, Moscow

"Data on the Neuronal Organization of the Neocortex of the Dolphin Brain"

Leningrad, Arkhiv Anatomii, Gistologii i Embriologii, Vol 59, No 8, Aug 70, pp 71-77

Abstract: A cytological investigation of the neocortex of the dolphin brain was conducted using a modified Golgi method. Among the general characteristics of the structure of the dolphin neocortex noted was a small difference between the thicknesses in the motor and limbic regions as compared to the neocortex of terrestrial mammals. Pyramidal-shaped neurons predominated in the dolphin neocortex while stellate cells were very scarce. Transitional forms of neurons were present in considerable quantities. It thus appears that the organization of the dolphin neocortex is more primitive than that of the primates. On the basis of the macro- and microcharacteristics established, it is possible to postulate a particular type of cortex that is specific for aqueous mammals (cetaceans). The predominance of pyramidal neurons indicates a greater degree of dispersion of efferent conduction in the cortex of dolphins as compared with that of terrestrial animals (raptors and primates), a phenomenom

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002201230009-2"

USSR

KESAREV, V. S., Arkhiv Anatomii, Gistologii i Embriologii, Vol 59, No 8, Aug 70, pp 71-77

which is presumably related to the specific nature of motor functions in an aqueous medium. The neuronal structure in the temporal region is thought to be associated with the functioning of the auditory analysor, which is of great importance for dolphins. In this region, pyramidal neurons were smaller and stellate neurons more numerous than in other regions.

2/2

1/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--COBR SUB2 -MBR SYSTEM -U-

AUTHOR-(02)-BELYAYEV, I.N., KESAREV, V.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1418-21

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--PHASE EQUILIBRIUM, BROMIDE, CADMIUM COMPOUND, VAPOR PRESSURE, ALKALI METAL COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1395 STEP NO--UR/0078/70/015/005/1418/1421

CIRC ACCESSION NO--AP0135069

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0135069

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TOTAL VAPOR PRESSURE ABOVE THE BINARY SYSTEM CDBR-MBR (M EQUALS LI, NA, K, RB, CS) WAS CALCD. FROM M.P. DATA. WITH AN EXCEPTION OF THE LIBR SYSTEM, THE INVESTIGATED SYSTEMS SHOW A POS. DEVIATION OF THE VAPOR PRESSURE ISOTHERMS (700, 750, AND 800DEGREES), DUE TO COMPLEX FORMATION. THE DEVIATION INCREASED IN THE ABOVE ORDER OF M FROM NA TO CS. FACILITY: ROSTOV-GN-DONU GOS. UNIV., ROSTOV-ON-DON, USSR.

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